

# Notice of Allowability

Application No.

10/783,186

Examiner

Anthony S. Addy

Applicant(s)

FRIDAY ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Remarks/Amendment of 02/08/2007.
2. ☒ The allowed claim(s) is/are 9-23 (renumbered as claims 1-15, respectively).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

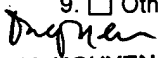
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date 10/02/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
DUC M. NGUYEN  
SUPERVISORY PRIMARY EXAMINER  
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A.S.A

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mark J. Spolyar (Reg. No. 42,164) on 14 February 2007.
3. The application has been amended as follows:

### IN THE CLAIMS

Claim 9: line 1,

"a wireless node," has been replaced with -- **wireless nodes**, --

Claim 9: line 2,

"comprising" has been replaced with -- **comprising**: --

Claim 9: line 5,

"operative to" has been replaced with -- **operative to**: --

Claim 9: line 8,

"detect the strength of received signals;" has been replaced with -- **detect the strength of received signals corresponding to frames received from wireless nodes**; --

Claim 9: line 9,

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"append a signal strength value to frames received from wireless nodes;" has been replaced with -- **append signal strength values to the frames received from the wireless nodes; --**

Claim 9: line 11,

"transmit received frames" has been replaced with -- **transmit the received frames --**

Claim 9: line 19,

"element is operative to" has been replaced with -- **element is operative to: --**

Claim 9: line 22,

"to frames" has been replaced with -- **to the frames --**

Claim 9: line 24,

"module operative to" has been replaced with -- **module operative to: --**

Claim 14: line 1,

"comprises" has been replaced with -- **comprises: --**

Claim 14: line 6,

"transduced the antennas" has been replaced with -- **transduced by the antennas --**

Claim 14: lines 7-8,

"the preamble of a wireless frame, to" has been replaced with -- **a preamble of a wireless frame, to: --**

Claim 14: line 10,

"detector," has been replaced with -- **detector, and --**

***Allowable Subject Matter***

4. **Claims 9-23** (renumbered as claims 1-15, respectively) are allowed.
5. The following is a statement of reasons for the indication of allowable subject matter:

The present invention relates to methods and systems directed to a wireless node RF Fingerprinting location mechanism that uses multiple antenna patterns to enhance the accuracy of wireless node location in an RF environment.

The instant invention with respect to claim 9, teaches a wireless network system facilitating the location of wireless nodes, identifying the uniquely distinct features **"wherein the access elements are each operative to: append signal strength values to the frames received from the wireless nodes....; wherein at least one of the access elements comprises a plurality of directional antennas, and is further operative to: append an identifier corresponding to the selected antenna to the frames received from the wireless nodes....; and at least one central control element for supervising the access elements, wherein the central control element is operative to: store signal strength data appended to the frames transmitted by the plurality of access elements in association with wireless node identifiers."**

The closest prior art, **Sharony, U.S. Publication Number 2005/0113090** teaches an apparatus facilitating the location of a wireless node in an RF environment (see abstract and p. 3 [0024-0025]), comprising a plurality of radio transceivers comprising at least one antenna (see abstract, p. 1 [0008], p. 3 [0024-0025 & 0027]), the plurality of radio transceivers operative to detect the strength of signals transmitted

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by wireless nodes and provide the detected signal strengths to a wireless node location model (see p. 3 [0025-0028]); wherein at least one of the radio transceivers comprises at least two directional antennas, and is operative to identify the directional antenna associated with the detected signal strength for a given signal (see p. 3 [0027]); a wireless node location module operative to compute the estimated location of a wireless node based on the antennas identified by one or more of the radio transceivers, and the strength of signals transmitted by the wireless node as detected by a plurality of radio transceivers (see p. 3 [0027-0029]). However, Sharony fails to anticipate or render the above underlined limitations in combination with all the recited limitations of claim 9 obvious, over any of the prior art of record, alone or in combination.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc M. Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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